

**STATUS REPORT – PINNIPED PREDATION AND HAZING
AT
BONNEVILLE DAM IN 2008**

Robert Stansell, Sean Tackley, and Karrie Gibbons

2/14/08

This is the first status report for 2008 on the pinniped predation and hazing activities being conducted at Bonneville Dam. Although intermittent observations occurred in November and December, regular observations began on January 11, Mondays through Fridays, and switched to 7 days a week on February 4. Observations begin roughly an hour before sunrise and end an hour after sunset. **Please remember all data are preliminary and final figures are likely to change some after further analysis and proofing, so be careful about quoting these figures.** Boat based harassment has been conducted since December 12 for Steller sea lions preying on sturgeon, 2 to 5 days a week, and has continued for California sea lions to date. Weekends are not covered. Dam based harassment by USDA WS agents will begin on March 3, for 7 days a week, through the end of May. Data collection will end after May 31, as will harassment activities. Some additional observations will occur as long as sea lions are still present.

The states are anticipating permission from NOAA fisheries for lethal take of up to 30 California sea lions this spring, by lethal injection and/or shooting. The states are also working with the Corps, enforcement agencies, an animal care committee, and various other groups to create a plan to address safety issues and coordination should lethal shooting become allowed. Funding issues have precluded the building of additional traps and a tagging barge to date, but these could be constructed and deployed as early as April. Logistics for a holding facility and potential sites that may want some of these animals also are being explored.

PRELIMINARY RESULTS

Data presented here are up through February 11, 2008. A final report of the 2005-2007 evaluation will be available in March.

PINNIPED ABUNDANCE

The first Steller sea lion (*Eumetopias jubatus*) this season was seen at Bonneville on November 6, 2007, with 4 days of sightings in November and 2 in December. Up to 3 Stellers sea lions were observed at a time. The first California sea lion (*Zalophus californianus*) was seen on November 8, 2007, but only for that one day. California sea lions were seen regularly from January 9. Harbor seals (*Phoca vitulina*) were seen occasionally from August to the present. To date, we have seen as many as 12 Steller sea lions and 3 California sea lions at the dam on any given day (see Figure 1). The most number of pinnipeds total for one day so far was 15 on February 3. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 4 different California sea lions, 12 Steller sea lions, and 2 Harbor seals. Three of the California sea lions have been seen in previous years, while the fourth could not be identified. An additional 6 “Bonneville” animals have been spotted in Astoria in recent months.

PREDATION FIGURES

Unexpanded numbers for fish observed taken between January 11 and February 12 are:

- 34 steelhead (see Figure 2)
- 218 sturgeon (6 larger than 5 feet)(see Figures 2, 3 and 4)
- 4 lamprey
- 118 unidentified (see Figure 2)

Steller sea lions are the primary predators of white sturgeon (*Acipenser transmontanus*) in the Bonneville Dam tailrace (Figure 5). Only six sturgeon were taken by California sea lions in past years; 1 this year and 1 by a harbor seal; (2'). California sea lions are primarily taking steelhead. It is likely that most unknown fish observed caught by Steller sea lions are sturgeon, while those unknown fish observed caught by California sea lions are steelhead.

Most sturgeon are caught at the spillway followed by PH2, while most steelhead are being caught at PH1 and PH2 (Figure 6). Figure 4 shows that sturgeon take is on pace to equal the sturgeon take of last year. However, smaller sturgeon are being taken proportionally more this year than in previous years (Figure 4).

HAZING IMPACTS

Boat hazing began on December 12 and has not had the effect of chasing the Steller sea lions completely away from the project for more than the hours the boats are present. They are chased downstream or underwater during the hazing, but as can be seen in Figure 1, they are back either later in the day or the next day.

SLEDs were installed at PH2 entrances on January 28. PH1 is still OOS. B-branch and Cascade Island entrance SLEDs are waiting on the large crane for installation.

Acoustics were deployed at all major fishway entrances by January 10.

OTHER ITEMS OF INTEREST

So far we have primarily seen Steller sea lions hauled out, typically inside the downstream end of the PH2 corner collector (Figure 7). When tailwater dropped very low on February 11, we saw 7 Stellers and 1 California sea lion hauled out on the spill bay 16 ogee (Figure 9). The trap has not been deployed yet. PSU volunteers are conducting observations between Tanner Creek and Ives Island, and the states may do some supplemental observations between the dam and Tanner Creek. We will present this data as it becomes available to us.

SUMMARY

Pinniped numbers are remaining relatively low, with few California sea lions present at this time. The primary activity at this time is Steller sea lion predation on sturgeon. So far, boat harassment has not eliminated the presence of Steller sea lions or predation on sturgeon in the Bonneville Dam tailrace.

Figure 1. Daily minimum pinniped abundance.

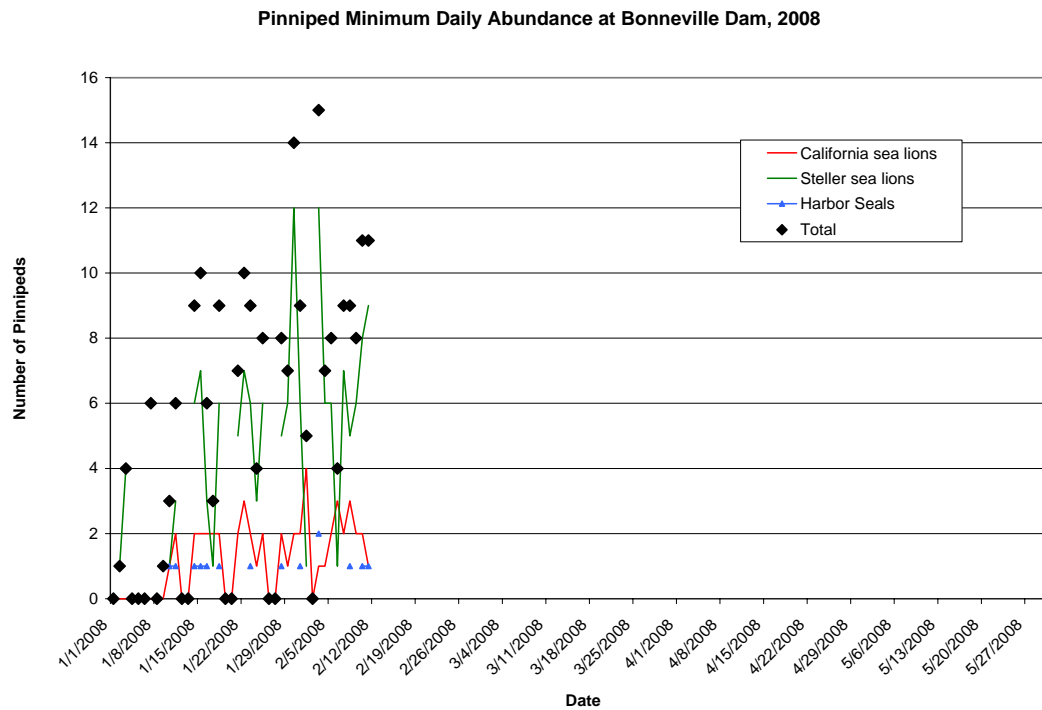


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

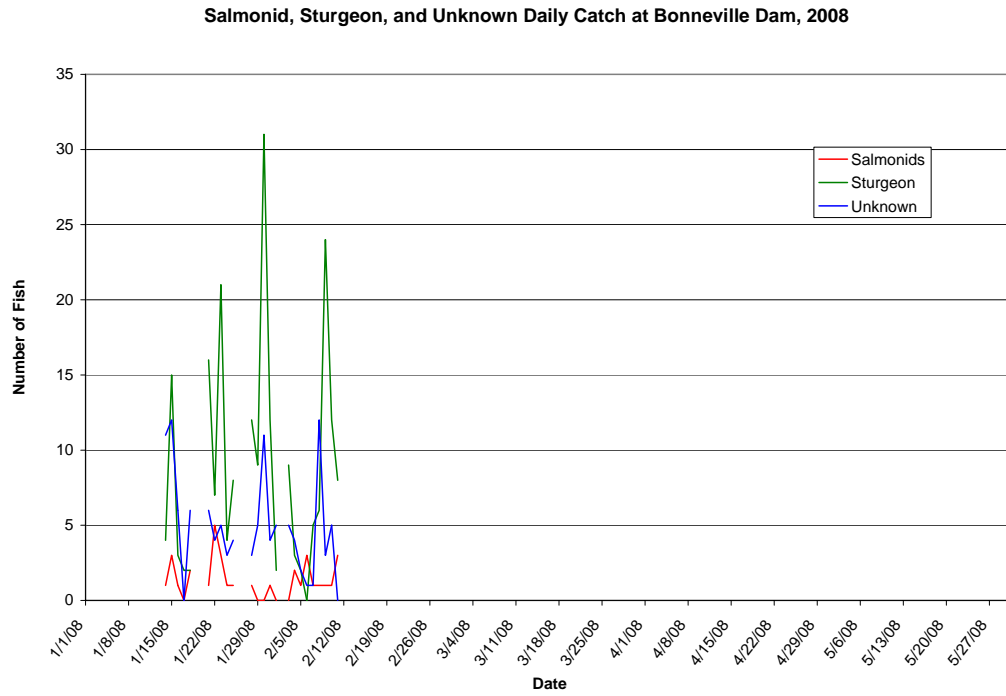


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data not expanded yet and preliminary.

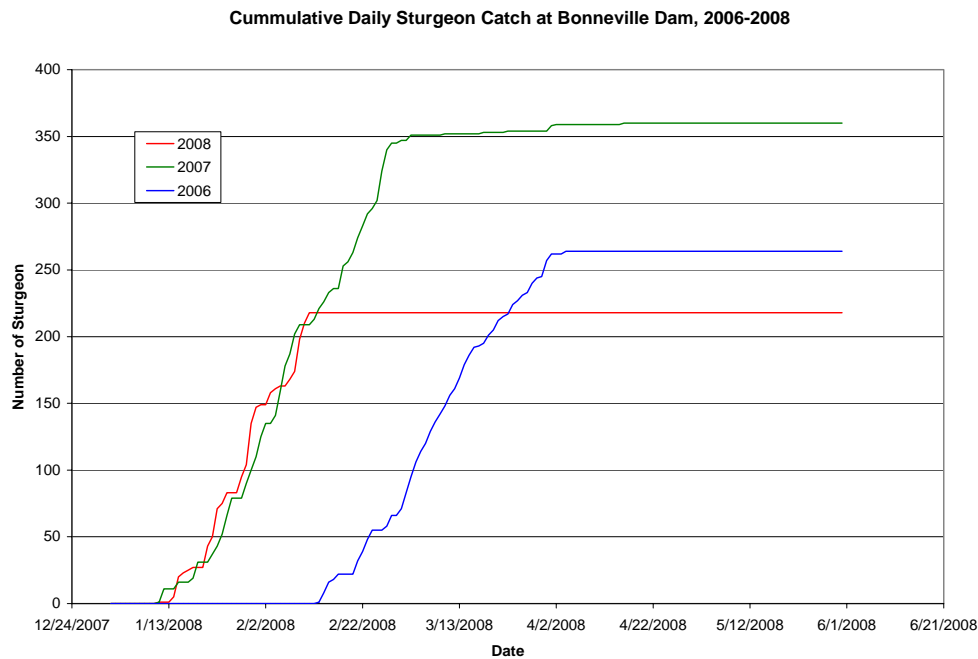


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

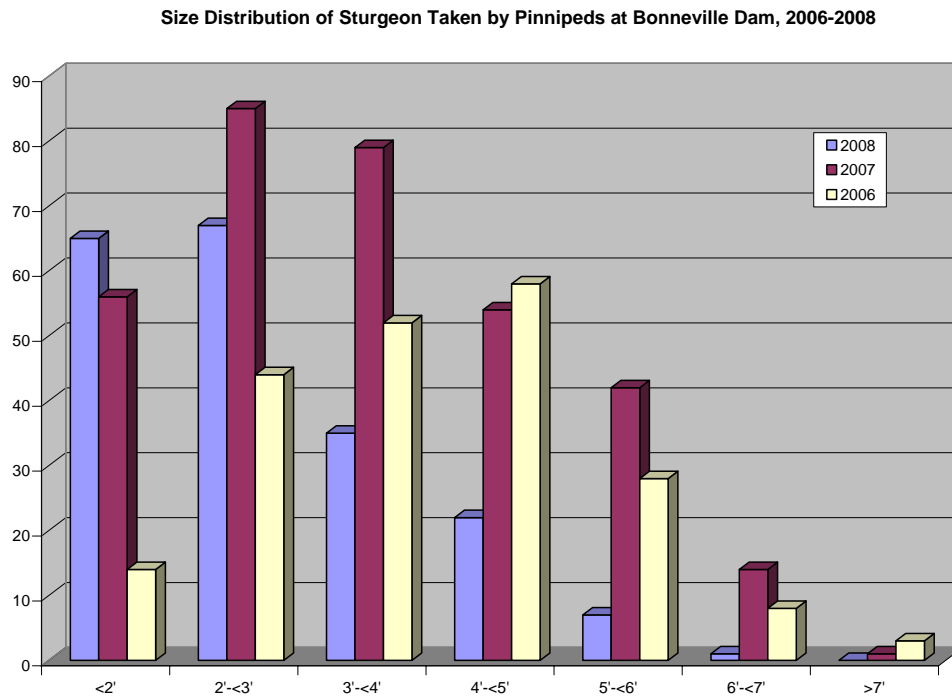


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

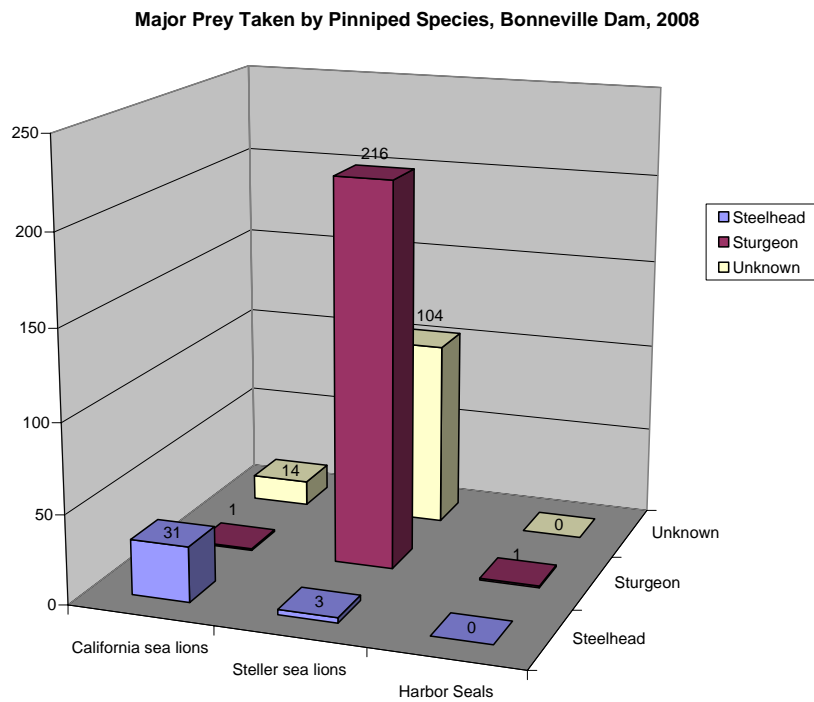


Figure 6. Location of prey taken at Bonneville Dam, 2008.

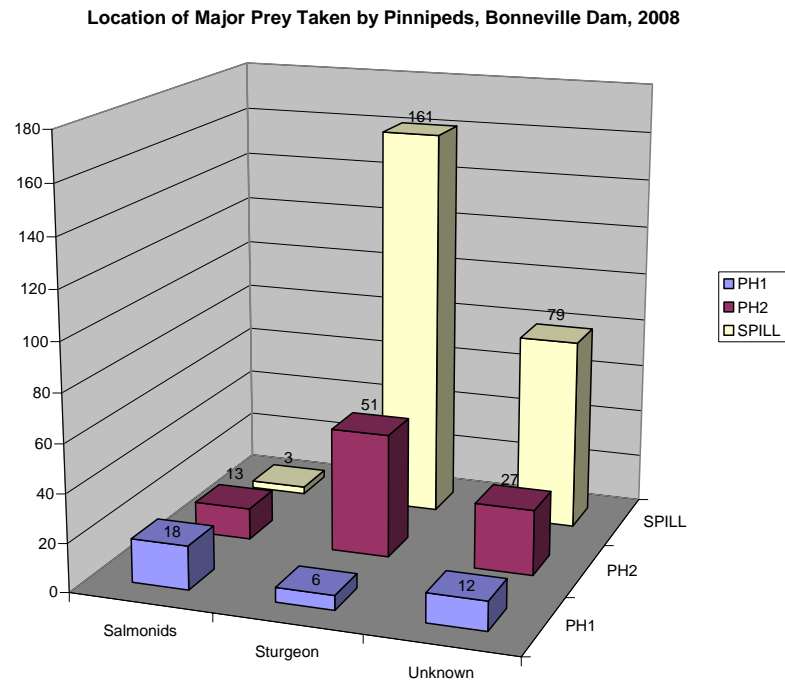


Figure 7. Steller sea lions using the PH2 Corner Collector outfall as a haulout site.



Figure 8. Steller sea lions hauled out on spill bay 16.

